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Managerial Incentives on Cost Stickiness:

-Do Inside Debt Affect Manager's Resource Adjustment Decisions?

매니저 인센티브와 원가의 하방 경직성:

-부채 성격의 보상이 매니저의 자원 조정 의사결정에 영향을 미치는가?

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임현경

Managerial Incentives on Cost Stickiness:

-Do Inside Debt Affect Manager's Resource Adjustment Decisions?

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Abstract

Agency Theory uses different compensation schemes to align conflicting interest between the agent and the principal. Following, Jensen and Meckling(1976), a vast amount of literature have dealt with equity-based compensation which reduces equity agency cost but have largely ignored the role of inside debt compensation in alleviating the debt agency cost. The motivation for this paper is to better understand inside debt and its impact on debt agency cost in managerial cost decision. Specifically, this paper will address the question, "Do inside debt affect manager's resource adjustment decisions?" by examining the degree of cost stickiness. The findings in this paper are summarized as follows. First, inside debt incentives reduce the degree of cost stickiness. Second, CEO with high inside debt incentives cut costs more aggressively than CEO without the incentive. These findings support the hypothesis that CEO with high inside debt compensation will have incentives to adjust resource decisions to safeguard their value of future compensation.

Keywords: Cost Stickiness, Managerial Incentive, Debt-Agency Cost

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Table of Contents

List of Tables

1. Introduction

Cost stickiness is the asymmetric cost behavior following a change in sales. Unlike traditional model of cost behavior which suggests a symmetric relationship between cost and sales, Anderson et. al (2003), hereafter ABJ, presented an alternative model of cost behavior. ABJ provided evidence that cost behavior is influenced by manager's deliberate choice of resources committed to activities. As a result, the magnitude of the increase in SG&A costs associated with a sales increase is greater than the magnitude of the decrease in SG&A costs associated with an equivalent sales decrease.

Prior studies have found several determinants and mechanisms of cost stickiness. Manager's expectations for future sales measured by current capacity rate or prior sales change can affect cost stickiness (Balakrishnan et al.,2004; Banker et al. 2014). Cost stickiness for core activities shows a greater degree of cost stickiness (Balakrishnan and Gruca, 2008). Higher employment protection legislation(EPL) increase cost stickiness because the adjustment cost for labor is higher(Banker et al. 2013). Demand uncertainty, bankruptcy risks are also relevant (Banker et. al 2014; Holzhacker et. al 2015).

Although a study on managerial incentives can be an important driver of cost stickiness, there are relatively few studies. Kama and Weiss (2012) and Dierynk et al. (2012) suggests earnings management incentives can affect cost stickiness. In line with these studies on manger's incentive and resource adjustment decisions, this paper will examine how the difference in compensation structure leads to different managerial incentive resulting in different resource adjustment decisions.

Jensen and Murphy(1990) divides compensation into compensation with low sensitivity to change in firm value and high sensitivity to change in firm value. Low sensitivity to change in firm value compensation comprises salary and bonus while high sensitivity to change in firm value compensation comprises stock options, restricted and unrestricted stocks. Many other research following Jensen and Murphy(1990) implicitly assumes that there are only these two types of compensation.

However, there is also another portion of compensation- inside debt compensation. Sundaram and Yermack(2007) argue that the importance of inside debt on manager's incentives and the managerial decision has been largely ignored. Inside debt is surprisingly common especially for large companies in slower-growth sectors, such as manufacturing, utility, and transportation. More than two-thirds of the CEOs in the Execu-Comp had non-zero inside debt in 2006. Among CEOs with non-zero inside debt, the mean value of total inside debt was $10 million with a median value of $5 million (Wei and Yermack, 2011). I specifically focus on inside debt incentives to contribute to the recent stream of research on debt agency costs and the role of inside debt. This paper specifically tests how CEO inside debt incentives will affect CEO's resource decisions, which can be observed in the stickiness of cost.

The paper proceeds as follows. The relevant literature is discussed and hypotheses are developed in Section 2. Section 3 presents research design and variable measurements. Section 4 describes the sample and Section 5 show the results of empirical tests. Lastly, section 6 summarizes.

2. Literature Overview and Hypotheses

Debt agency cost arises when managers increase the firm volatility for shareholders at the expense of debt holders (Jensen and Meckling, 1976). This is so called "risk-shifting problem". To reduce debt agency cost, inside debt compensation is regarded as an alternative. When pension or deferred compensation is rewarded, CEO forgoes current compensation for future compensations, which are mostly unsecured[1]. In other words, CEO with higher inside debt compensation ratio is exposed to similar risk as having firm's risky unsecured debt (Liu et al. 2014). To safeguard the value of their inside compensation, CEO's cost decision may be altered in a way that is more favorable to the debt holders.

In this paper, I argue that CEO's inside debt induces a greater reduction in costs in response to sales decrease, or less cost stickiness. When sales decrease, a manager compares adjustment costs (i.e. cost of firing employees) and the cost of carrying unutilized resources. If adjustments costs are greater than the cost of retaining resources, the manager will intentionally keep slack. This results in cost stickiness. In other words, the magnitude of the increase in costs associated with an increase in activity is *greater* than the decrease in costs associated with a decrease in

[1] In underfunded DB plans, beneficiaries must accept anything they can get if the firm goes bankrupt. Also, only 15% of sample companies in Sundaram et al. (2007) were found to provide their executive's pensions with so-called "rabbi" trust which secures executive's pension even in the event of bankruptcy.

activity (ABJ, 2003).

Yet, for a manager with high inside debt, another cost arises to holding slack. Higher cost stickiness implies lower cost savings and a greater decrease in profits or greater loss when sale decrease. Moreover, given that the rest of the distribution of profits remains unchanged, this greater decrease in profits result in greater variability of the *ex-ante* profit distribution (Balakrishnan et al., 2004; Weiss, 2010). This imposes a risk on the probability of getting future compensation fully. Considering the costs of risking future compensation in cost decision, CEO will have higher incentive to decrease committed resource. If this paper's results are consistent with the hypothesis, Dhole et al. (2015) and Cassell et al. (2012)'s findings that inside debt is related to lower earnings volatility and stock return volatility, which reflects the earnings volatility in efficient market, could be partly explained by less cost sticky behavior.

On the contrary, when sales rise, CEO with high inside debt are more hesitant of hiring a new resource to avoid any adjustment costs which they have to incur when future sales decrease. Therefore, only when they are absolutely certain about optimistic future sales, they will be willing to commit additional resources. If not, they will only add resources that are necessary to accommodate current sale increase. Yet, the impact of the incentives for sales increase will be *lower* than the sale decrease. This is because debtholder's payoffs are fixed when firm performance is good while payoffs are linear when firm performance is bad. This means debtholder cannot get extra profit for good performance while incurring a loss for bad performance. Therefore, incentives to safeguard future compensation is stronger for

pessimistic sales.

Thus, I present following hypotheses:

H1: Firms with CEO with high inside debt incentive exhibits less cost stickiness

H2: For a given decrease in sales, CEO with high inside debt incentive cut costs more aggressively than CEO without the incentive.

3. Research Design and Variable Measurement

3.1 COMPREHENSIVE REGRESSION MODEL

I make a modification to ABJ's cost stickiness model. ABJ focus on managerial discretion for only when sales decreases. The basic model presented by ABJ is given by Equation (1):

$$\log\left[\frac{SG\&A_{i,t}}{SG\&A_{i,t-1}}\right] = B_0 + B_1 log\left[\frac{Sale_{i,t}}{Sale_{i,t-1}}\right] + B_2 Decrease\ \ Dummy_{i,t} log\left[\frac{Sale_{i,t}}{Sale_{i,t-1}}\right] + e_{i,t} \quad (1)$$

where $SG\&A_{it}$ are Selling, General and Administrative expenses of firm i in year t. SG&A are costs that occur during daily operations of a company and not directly related to manufacturing of the product. Items commonly included in SG&A are

employee salaries, marketing costs, rent and utilities and maintenance. These costs are generally more complicated to adjust than cost the of goods sold because they are often fixed recurring expenses (i.e. payroll expenses). Therefore, these uneasy-to-adjust costs can be a variable of interest to examine the managerial *intention* in cost decision.

The coefficient, B_1 is the percentage increase in SG&A for a 1 percent increase in sales. $Decrease\_Dummy_{i,t}$ takes the value of 1 when sales revenue decreases between periods t-1 and t, and 0 otherwise. Thus, the sum of B_1 and B_2 is the percentage decrease in SG&A for a 1 percent decrease in sale. Cost stickiness is represented by negative B_2. Based on prior literature, I expect B_1 to be positive, B_2 to be negative.

The extended model presented by ABJ and other prior literature includes economic determinants of cost asymmetry as controls. It is given by Equation (2):

$$\log\left[\frac{SG\&A_{i,t}}{SG\&A_{i,t-1}}\right] = B_0 + B_1 log\left[\frac{Sale_{i,t}}{Sale_{i,t-1}}\right] + B_2 Decrease\_Dummy_{i,t} * log\left[\frac{Sale_{i,t}}{Sale_{i,t-1}}\right]$$
$$+ B_3 Asset\_Intensity_{i,t} * Decrease\_Dummy_{i,t} * log\left[\frac{Sale_{i,t}}{Sale_{i,t-1}}\right]$$
$$+ B_4 Employee\_Intensity_{i,t} * Decrease\_Dummy_{i,t} * log\left[\frac{Sale_{i,t}}{Sale_{i,t-1}}\right]$$
$$+ B_5 Prior\_Year\_Sale\_Decrease\_Dummy_{i,t} * Decrease\_Dummy_{i,t} * log\left[\frac{Sale_{i,t}}{Sale_{i,t-1}}\right]$$

$$+ B_6 Economic\_Growth_{i,t} * Decrease\_Dummy_{i,t} * \ log\left[\frac{Sale_{i,t}}{Sale_{i,t-1}}\right]$$

$$+ B_7 Decrease\_Dummy_{i,t} \ + B_8 Asset\_Intensity_{i,t} + B_9 Employee\_Intensity_{i,t}$$

$$+ B_{10} Prior\_Year\_Sales\_Decrease_{i,t} + \ B_{11} Economic \ \ Growth_{i,t}$$

$$+ e_{i,t} \qquad (2)$$

where Asset Intensity is calculated by $log\left[\frac{Assets_{i,t}}{Sale_{i,t}}\right]$; employee Intensity is $log\left[\frac{Employees_{i,t}}{Sale_{i,t}}\right]$; Economic_Growth is the percentage growth in real gross domestic product (GDP) during year t. $Prior\_Year\_Decrease\_Dummy_{i,t-1}$ takes the value of 1 when sales revenue decreases between periods t-2 and t-1, and 0 otherwise. I will use the same control variables for my comprehensive regression model presented in Equation (3).

Recent studies also consider managerial resource adjustments decisions for sales increase as well (Kama and Weiss, 2012; Dierynk et al. 2012; Banker et. al 2014). Accordingly, I take into account of manager's decision for both sales decrease and sales increase. Specifically, I add interaction terms that enable the estimation of inside debt incentive on cost decision not only when sales decreases but also when sales increases. The control variables are added in accordance with ABJ and subsequent studies with only three-way interaction terms, with the assumption that

these control variables do not have an impact on increases in sales.[2] Additionally, to assure that findings are not driven by industry-specific characteristics, I use industry indicator variables using Fama-French industry classification. In the same manner, I control for potential year effects. Lastly, I cluster observations at the firm level to control for error dependence of firm observations.

The comprehensive regression model is given in Equation (3):

$$\log\left[\frac{SG\&A_{i,t}}{SG\&A_{i,t-1}}\right] = B_0 + B_1 log\left[\frac{Sale_{i,t}}{Sale_{i,t-1}}\right] + B_2 Decrease\_Dummy_{i,t} * log\left[\frac{Sale_{i,t}}{Sale_{i,t-1}}\right] + B_3 Inside\_Debt\_Incentive_{i,t} * log\left[\frac{Sale_{i,t}}{Sale_{i,t-1}}\right] + B_4 Inside\_Debt\_Incentive_{i,t} * Decrease\_Dummy_{i,t} * log\left[\frac{Sale_{i,t}}{Sale_{i,t-1}}\right] + B_5 Asset\_Intensity_{i,t} * Decrease\_Dummy_{i,t} * log\left[\frac{Sale_{i,t}}{Sale_{i,t-1}}\right] + B_6 Employee\_Intensity_{i,t} * Decrease\_Dummy_{i,t} * log\left[\frac{Sale_{i,t}}{Sale_{i,t-1}}\right] + B_7 Prior\_Year\_Sale\_Decrease\_Dummy_{i,t} * Decrease\_Dummy_{i,t} * log\left[\frac{Sale_{i,t}}{Sale_{i,t-1}}\right]$$

2 In alternative model specification, I estimated Equation (3) including two-way interaction terms for the control variables as well. Untabulated findings result in inferences identical to those in the tabulated results.

$$+ B_8 Economic\_Growth_{i,t} * Decrease\_Dummy_{i,t} * \ log\left[\frac{Sale_{i,t}}{Sale_{i,t-1}}\right]$$

$$+ B_9 Decrease\_Dummy_{i,t} + B_{10} Inside\_Debt\_Incentive_{i,t}$$

$$+ B_{11} Asset\_Intensity_{i,t} + B_{12} Employee\_Intensity_{i,t}$$

$$+ B_{12} Prior\_Year\_Sales\_Decrease_{i,t} + B_{13} Economic\ Growth_{i,t}$$

$$+ \sum \text{Year\_Indicators} + \sum \text{Industry\_Indicators} + e_{i,t} \quad (3)$$

where, $Inside\_Debt\_Incentive_{i,t}$ proxy will be described in detail in the second section.

In the presence of inside debt incentive, the slope for sales increases is $B_1 + B_3$, while the slope for sales decreases is $B_1 + B_2 + B_3 + B_4 + B_5 + B_6 + B_7 + B_8$. From the two cases, $B_1 + B_3$ is in the slope for both increases and decreases. Accordingly, the stickiness measure in the presence of inside debt incentive is the difference between the two slopes, which is $B_2 + B_4 + B_5 + B_6 + B_7 + B_8$. On the other hand, the stickiness measure absent the incentives is $B_2 + B_5 + B_6 + B_7 + B_8$. Therefore, if B_4 >0, Hypothesis 1 holds. It indicates resource adjustments decision driven from incentive to safeguard future compensation reduces cost stickiness.

Greater reduction in costs in response to sales decrease indicates greater slope for sale decrease. If the slop for CEO with inside debt incentive is greater than the slop for CEO without inside debt incentive, this paper's Hypothesis 2 will be

confirmed. The slop for sale decrease in the presence of the incentive is $B_1 + B_2 + B_3 + B_4 + B_5 + B_6 + B_7 + B_8$, while without the incentive is $B_1 + B_2 + B_5 + B_6 + B_7 + B_8$. Therefore, if $B_3 + B_4 > 0$, Hypothesis 2 holds.

3.2 INSIDE DEBT INCENTIVE MEASUREMENT

I use four proxies for $Inside\_Debt\_Incentive_{i,t}$, following concepts of proxies suggested by Edmans and Liu (2011), Cassell et al. (2012), Wei & Yermack (2011), and modifying the proxies based on Jiang et al. (2010), Bergstresser and Philippon (2006), and Wen (2016).

First, the two CEO inside debt incentive measures constructed with level variables are calculated as

CEO Inside Debt Incentive Ratio (Level) $= Inside\ Debt/Inside\ Equity$, and

CEO Inside Debt *Relative* Incentive Ratio (Level)= $\frac{Inside\ Debt/Inside\ Equity}{\text{Firm Debt/FirmEquity}}$.

Inside debt is calculated as the sum of the present value of accumulated pension benefits and deferred compensation as reported in *Execucomp* (defer_balance_tot + pension_value_tot). The value of inside equity is calculated consistent with Jiang et al. (2010) as the sum of fair value of stock holdings, including restricted stock holdings and the fair value of option holdings ((shrown_excl_opts *prcc_f) +opt_unex_exer_est_val +opt_unex_unexer_est_val)). Firm debt is the total book

value of liability (lt). Firm equity is the fiscal end market value of equity (csho *prcc_f).

Second, the two CEO inside debt incentive measures constructed with delta variables are calculated as

CEO Inside Debt Incentive Ratio (Change)= $\triangle Inside\ Debt / \triangle Inside\ Equity$, and

CEO Inside Debt *Relative* Incentive Ratio (Change) = $\frac{\triangle Inside\ Debt / \triangle Inside\ Equity}{\triangle \text{Firm Debt} / \triangle \text{FirmEquity}}$.

This measure alleviates the concern of level measure by capturing a different perspective of the incentive. Whereas Edmans and Liu (2011), Cassell et al. (2012), Wei & Yermack (2011) calculate CEO equity-based incentives as the how one dollar change in the value of the firm affects the value of the CEO's inside equity claims, I estimate how *a one percentage point increase in the company stock price* affects the value of the CEO's inside equity claims. This approach is consistent with Bergstresser and Philippon (2006), Jiang et al. (2010) and Wen (2016) in calculating executive's equity-based incentives. To summarize, CEO Inside Debt Incentive Ratio (Change) indicates how a one percentage point increase in the company stock price affects the value of the CEO's inside debt versus inside equity claims whereas, CEO Inside Debt Relative Incentive Ratio (Change) scales this measure by how a one percentage point increase in the company stock price affects external debt versus external equity.

$\triangle Inside\ Equity$ is constructed following Bergstresser and Philippon (2006), as 0.01 *prcc_f *(shrown_excl_opts + opt_unex_exer_est_num

+opt_unex_unexer_est_num). $\triangle$FirmEquity is constructed using a similar approach to that used for $\triangle Inside\ Equity$ except that there are no complete data on all the outstanding option issued by the firm. Therefore, as in Cassell et al. (2012), Dhole et. al (2015), I use the total number of employee stock options outstanding(optosey). Following Wei & Yermack (2011), $\triangle Inside\ Debt$ and $\triangle Firm\ Debt$ are set as $Inside\ Debt$ and Firm Debt, respectively.

4. Sample Selection and Descriptive Statistics

4.1 SAMPLE

The sample includes all public firms covered by Compustat during 2006-2014. The sample period starts from 2006 because it is the first year SEC required firms to disclose their top executives' deferred compensation plans, pension benefits, and other post-employment payments. From firm-year starting from 2004 to ending in 2014, I exclude financial institutions and public utilities (four-digit SIC codes 6000-6999 and 4900-4999) due to their incompatible structure of their financial statements. The sample includes firm-year observations with positive values for sales revenue, total asset. As in ABJ, I excluded observations for which current (prior) SG&A costs exceeding current (prior) sale. To limit the effect of extreme observations, I delete observations for which change in sales and SG&A costs, inside debt incentive ratios are in the top and bottom of 0.5%. The final sample covers 11,570 firm-year observations between 2006 and 2014. Table 1 provides details on the sample selection.

[Insert Table 1 about here]

4.2 DESCRIPTIVE STATISTICS

Comparing the descriptive statistics of this paper's sample reported in Table 2 with ABJ sample shows a similar frequency of sales decline (28.11% versus 27.01% in ABJ). Also, the SG&A/sales ratio is similar (25.24% versus 26.411% in ABJ). Mean (median) of CEO incentive ratio (=inside debt/ inside equity) is 0.2886 (0.0210) suggesting that, for the majority of the sample, CEO inside equity is greater than CEO inside debt amount. Also, the mean (median) of relative incentive ratio is 0.5091 (0.0342) indicating CEO's debt-to-equity ratio is less than firm's debt-to-equity ratio. Nevertheless, the average CEO inside debt holders have more than 4 million dollars, which is substantial in amount. All CEO inside debt incentive ratios are heavily right-skewed. This pattern is similar to the descriptive statistic of Cassell et. al (2012). Following Cassell et. al (2012)'s prescription to adjust skewness, I use logarithmic transform for the inside debt incentive ratios and test robustness of the results. The results remain consistent. The correlation among the inside debt incentive variables ranges from 0.418 to 0.794. This indicates common variation in the measures while each measure capturing the unique dimension of CEO inside debt incentive.

[Insert Table 2 and 3 about here]

5. Empirical Results

5.1 COMPREHENSIVE REGRESSION MODEL

I start by examining the basic model of ABJ as a benchmark (Basic Model1, Basic Model2 of Table 4). Next, I examine the influence of inside debt incentives on cost stickiness using Equation (3) (Extended Model1, Extended Model2, Extended Model3, Extended Model4 of Table 4). Extended Model1 uses a proxy of Incentive Ratio (Level). Extended Model 2 uses a proxy of Relative Incentive Ratio(Level). Extended Model3 uses a proxy of Incentive Ratio (Change). Lastly, Extended Model 4 uses a proxy of Relative Incentive Ratio (Level).

All of the models have significantly negative coefficient of B_2, reconfirming ABJ's findings of cost stickiness. Considering inside debt incentives to safeguard their compensation, the estimate of B_3 is 0.094(Extended Model1), 0.043(Extended Model2), 0.002(Extended Model3), and 0.07(Extended Model4), positive and significant at the 0.05(Extended Model1, 2), 0.01(Extended Model3),0.1(Extended Model4) level. This supports this papers Hypothesis 1 that inside debt incentives diminish the degree of cost stickiness.[3]

[3] Untabulated results also support the hypothesis 1 and 2 even after controlling for all four agency variables, which are free cashflow, tenure, fixed-pay, and CEO horizon, listed in Chen et. al (2012).

To test for the second hypothesis, I examine whether $B_3 + B_4$ is positive and significant. For Extended Model1, $B_3 + B_4$ = -0.055+0.094=0.039 . For Extended Model2, $B_3 + B_4$ = -0.036 +0.043 =0.007. For Extended Model3 $B_3 + B_4$ = -0.001+0.002 =0.001. For Extended Model4 $B_3 + B_4$ =-0.05+0.072=0.022. In short, $B_3 + B_4$ is positive and significant for all models. This results support Hypothesis 2 that CEO with the incentives cut costs aggressively when sales decrease than absent these incentives.

Overall, the findings from the estimating the comprehensive regression models suggest that mangers' resource adjustments are influenced by the compensation structure. Firms with CEO with high inside debt incentives had lower cost stickiness and cut cost to a greater extent.

[Insert Table 4 about here]

5.2 ADDITIONAL ANALYSIS

I add two additional analysis to gain a deeper understanding of inside debt incentive effects. First, I test whether the incentives are affected by age, as pension can be withdrawn beginning at age 66. Second, I test whether inside debt has an additional influence even when there are other reasons (i.e. earnings management incentive) that drive down the cost stickiness.

For the first test. I divide the age group into three (CEO below age 60, CEO within age 61 to 65, CEO above age 66). The descriptive statistics show that the median value for incentive ratio peaks at age group 61 to 65. On the other hand, the mean value for incentive ratio increases monotonically with age, except for Incentive Ratio (Level).

Regression in Table 6 reveals the inside debt incentive effects on resource management decisions are primarily driven by age group 61 to 65. The cost stickiness measure, B_4 is insignificant for age group below 60 and above 66, while it is significantly positive for age group 61 to 65 (Hypothesis1). Also, $B_3 + B_4$ is significant and positive for only those group (Hypothesis 2). Also, significantly negative value for B_2 is only observable for the age group below 60, which may imply CEO with longer career horizon left, are more willing to keep slack for the future.

For the second additional test, I test how strong the inside debt incentive is. When there are many other reasons to decrease committed resource, it is likely that the inside debt incentive effects are reduced. If inside debt incentive effects continue to exist for those situations as well, it shows how strong the incentives are.

[Insert Table 5 and 6 about here]

Prior literature on managerial incentive shows that earnings management incentive is another factor that leads to less cost stickiness (Kama and Weiss, 2012; Dierynck et al. 2012). I split the sample into two, one with earnings management incentive and the other without earnings management incentive. I follow Burgstahler and Dichev (1997), Roychowdhury (2006), Dierynck et al. (2012) in identifying the presence of earnings management incentives. These papers argue that firms in the interval just right of zero tend to manipulate earnings to meet earnings targets.

Following Dierynck et al. (2012) I use incentives to avoid earnings decrease variable $EDEC_{i,t}$. $EDEC_{i,t}$ is a dummy variable that equals 1 if the change in annual earnings deflated by market capitalization of shareholders' equity at prior year end is in the interval [0, 0.01][4], and 0 otherwise. Then I run Equation(3) to test the strength of inside debt incentives.

The expected effects for Hypothesis1 and Hypothesis2 still appeared for both the group with high earnings management and low earnings management group, except for one proxy for each group. This shows that inside debt incentives are strong enough to have an additional effect on decreasing *more* resources other than earnings management motives.

[Insert Table 7 and 8 about here]

4 I also test with interval [0, 0.03] and the results are similar.

6. Conclusion

This paper investigates the moderating effects of inside debt incentives on manager's resource adjustment decisions. This paper's findings show that firms with CEO holding high inside debt ratio have less cost stickiness and greater reduction in response to sales decrease. For additional analysis, I show that these effects are primarily driven by the age group 60 to 65, which is the age group relatively close to start of pension receiving age. Also, inside debt incentive had an additional influence to the earnings management incentive to cut down resource in general.

This paper extends contemporaneous accounting literature by exploring how managerial incentive can affect the variations in cost behavior. Also, this paper focuses on debt agency cost and examine whether inside debt has an expected effect in aligning interest with debtholders as suggested by Sundaram and Yermack (2007). Compared to studies on equity agency cost, studies on debt agency cost are scant. By examining inside debt, this paper adds additional insights on its role in manager's decision making.

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Table 1		
Sample Selection		
Panel A: Full Sample		**Firm-Years**
Potential Sample		102,770
Less:	Observations in financial institution and public utilities	(37,306)
Less:	Observations for which SG&A costs exceed sales for current and prior year	(11,067)
Less:	Observations with negative sale, SG&A, asset	(20,055)
Less:	Observations with missing data on other variables	(22,485)
Less:	Winsor top and bottom of ∆sale, ∆SG&A, inside debt ratio(0.5%)	(287)
Final Sample		11,570

Table 2					
Full Sample					
Variable	**Mean**	**std.**	**25%**	**Median**	**75%**
SG&A	1,204.7500	3,880.4500	110.4150	277.9610	814.8800
⊿SG&A	0.0658	0.1492	-0.0098	0.0603	0.1364
Sale	6,898.5500	22,965.9700	555.4550	1,507.3600	4,567.2000
⊿Sale	0.0652	0.1738	-0.0122	0.0650	0.1472
SG&A/Sale	0.2524	0.1700	0.1187	0.2213	0.3489
Inside Debt	4,659.6600	12,593.0400	0.0000	304.4730	3,636.4300
Inside Equity	118,454.1700	1,217,640.1600	4,374.1900	12,924.9400	38,181.6200
Incentive Ratio(Level)	0.2886	0.7274	0.0000	0.0210	0.2630
Relative Incentive Ratio(Level)	0.5091	1.1975	0.0000	0.0342	0.4648
Incentive Ratio(Change)	12.4876	33.1025	0.0000	1.1298	11.8080
Relative Incentive Ratio(Change)	0.2480	0.6793	0.0000	0.0191	0.2213
Asset Intensity	0.0594	0.6227	-0.3643	0.0571	0.4602
Employee Intensity	-1.1254	0.8803	-1.5625	-1.0760	-0.6690
Economic Growth	1.3159	1.7249	1.6000	2.2000	2.4000
Decrease	0.2811	0.4495	0.0000	0.0000	1.0000
Prior_Year_ Decrease	0.2690	0.4434	0.0000	0.0000	1.0000
Observations	11,570				

Table 3 (Pearson Correlation, N = 11,570)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	*SG&A cost*	1.000													
2	*Sale*	0.774	1.000												
		<.0001													
3	*SG&A /Sale*	0.035	-0.137	1.000											
		0.000	<.0001												
4	*ΔSG&A*	-0.022	-0.037	0.057	1.000										
		0.017	<.0001	<.0001											
5	*ΔSale*	-0.023	-0.017	-0.010	0.691	1.000									
		0.013	0.062	0.279	<.0001										
6	*Inside_Debt*	0.380	0.416	-0.126	-0.043	-0.035	1.000								
		<.0001	<.0001	<.0001	<.0001	0.000									
7	*Inside_Equity*	0.163	0.085	0.018	0.048	0.042	0.037	1.000							
		<.0001	<.0001	0.058	<.0001	<.0001	<.0001								
8	*Incentive_Ratio (Level)*	0.102	0.101	-0.140	-0.099	-0.093	0.297	-0.033	1.000						
		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	0.000							

9	*Relative_Incentive_Ratio (Level)*	0.118	0.080	-0.053	-0.056	-0.055	0.357	-0.033	0.623	1.000				
		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	0.000	<.0001					
10	*Incentive_Ratio(Change)*	0.078	0.092	-0.165	-0.081	-0.070	0.300	-0.030	0.748	0.532	1.000			
		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	0.001	<.0001	<.0001				
11	*Relative_Incentive_Ratio (Change)*	0.060	0.051	-0.078	-0.027	-0.024	0.323	-0.026	0.418	0.794	0.638	1.000		
		<.0001	<.0001	<.0001	0.004	0.010	<.0001	0.007	<.0001	<.0001	<.0001			
12	*Asset Intensity*	0.011	-0.092	0.204	0.075	0.034	0.012	0.032	-0.019	-0.004	-0.032	-0.030	1.000	
		0.233	<.0001	<.0001	<.0001	0.000	0.189	0.001	0.039	0.639	0.001	0.001		
13	*Employee Intensity*	-0.065	-0.199	0.123	-0.053	-0.083	-0.063	-0.038	0.002	0.024	0.005	0.036	-0.156	1.000
		<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	0.807	0.009	0.610	0.000	<.0001	
14	*Economic Growth*	0.015	0.020	-0.034	0.217	0.287	0.027	0.017	-0.044	-0.006	-0.006	0.029	0.004	-0.027	1.000
		0.098	0.030	0.000	<.0001	<.0001	0.004	0.062	<.0001	0.499	0.508	0.002	0.664	0.004	

Table 4

Variable	Predicted Sign	Basic Model 1 Coefficient (t-statistic)	Basic Model 2 Coefficient (t-statistic)	Extended 1 Coefficient (t-statistic)	Extended 2 Coefficient (t-statistic)	Extended 3 Coefficient (t-statistic)	Extended 4 Coefficient (t-statistic)
B0: Intercept		0.037 (3.82)***	-0.195 (-4.78)***	-0.198 (-4.85)***	-0.200 (-4.91)***	-0.195 (-4.79)***	-0.211 (-5.1)***
B1: log(sale/lag1_sale)	+	0.659 (50.29)***	0.638 (5.31)***	0.645 (44.34)***	0.647 (44.44)***	0.648 (44.43)***	0.641 (43.36)***
*B2: Decrease_Dummy *log(sale/lag1_sale)*	-	-0.216 (-8.25)***	-0.099 (-2.59)***	-0.117 (-3.01)***	-0.113 (-2.87)***	-0.120 (-3.11)***	-0.109 (-2.75)***
*B3: Inside_Debt_Incentive *log(sale/lag1_sale)*	-			-0.055 (-2.07)**	-0.036 (-3.13)***	-0.001 (-3.79)***	-0.05 (-3.00)***
*B4: Inside_Debt_Incentive *Decrease_Dummy *log(sale/lag1_sale)*	+			0.094 (2.44)**	0.043 (1.98)**	0.002 (3.62)***	0.072 (1.92)*
*B5: Asset_Intensity *Decrease_Dummy *log(sale/lag1_sale)*	-		-0.091 (-3.52)***	-0.089 (-3.42)***	-0.091 (-3.51)***	-0.089 (-3.42)	-0.083 (-3.09)***
*B6: Employee_Intensity *Decrease_Dummy *log(sale/lag1_sale)*	-		0.097 (5.37)***	0.096 (5.42)***	0.096 (5.32)***	0.096 (5.36)***	0.093 (5.04)***

B7: Prior_Year_Sale_Decrease_Dummy	+		0.069	0.071	0.070	0.071	0.066
**Decrease_Dummy *log(sale/lag1_sale)*			(2.15)**	(2.21)**	(2.19)**	(2.21)**	(2.03)**
*B8: Economic_Growth *Decrease_Dummy*	-		0.011	0.011	0.011	0.011	0.009
**log(sale/lag1_sale)*			(1.45)	(1.48)	(1.46)	(1.46)	(1.25)
			-0.005	-0.005	-0.006	-0.006	-0.006
B9: Decrease Dummy			(-1.6)	(-1.74)*	(-1.83)*	(-1.84)*	(-1.78)*
				0.000	0.001	0.000	0.004
B10: Inside_Debt_Incentives				(0.36)	(1.4)	(0.84)	(2.01)**
			0.014	0.014	0.014	0.014	0.014
B11: Asset_Intensity			(5.94)***	(5.92)***	(5.85)	(5.87)***	(5.84)***
			0.003	0.004	0.004	0.004	0.003
B12: Employee_Intensity			(2.19)**	(2.33)**	(2.26)**	(2.36)**	(1.97)**
			-0.028	-0.028	-0.028	-0.028	-0.027
B13: Prior_Year_Sale_Decrease_Dummy			(-9.94)***	(-9.83)***	(-9.84)***	(-9.86)***	(-9.62)***
			0.090	0.091	0.092	0.090	0.095
B14: Economic_Growth			(5.67)***	(5.75)***	(5.79)***	(5.68)***	(5.93)***
Number of Observations		11570	11570	11570	11570	11570	11570

Adjusted R^2	0.4966	0.5151	0.5159	0.5158	0.5162	0.5181

*, **, and *** indicate significance respectively at the 10%, 5%, and 1% levels. Numbers in parentheses are t-statistics that are based on standard errors clustered by firm.

Table 5

	AGE ≦ 60			61 ≦ AGE ≦ 65			66 ≦ AGE		
	Mean	**std.**	**Median**	**Mean**	**std.**	**Median**	**Mean**	**std.**	**Median**
Present Age	54.86	4.23	56.00	62.84	1.40	63.00	70.34	4.53	69.00
Inside Debt	2,710.25	8,922.32	18.32	6,464.94	15,334.02	959.30	6,938.29	15,189.18	930.33
Inside Equity	108,103.07	1,136,952.79	10,496.97	66,231.49	371,416.75	13,110.72	195,428.72	1,814,652.62	20,379.93
CEO Incentive Ratio(Level)	0.19	0.53	0.00	0.40	0.89	0.08	0.38	0.87	0.03
CEO Relative Incentive Ratio (Level)	0.34	0.85	0.00	0.65	1.27	0.14	0.72	1.62	0.07
CEO Incentive Ratio(Change)	8.02	23.41	0.05	16.96	35.65	4.55	17.35	44.69	2.04
CEO Relative Incentive Ratio (Change)	0.16	0.49	0.00	0.31	0.68	0.08	0.36	0.95	0.04
Observations			5,911			2,898			2,761

Table 6

SPLIT REGRESSION

	Panel A: AGE ≦ 60			
	Incentive Ratio (Lv)	**Relative Incentive Ratio(Lv)**	**Incentive Ratio (Δ)**	**Relative Incentive Ratio(Δ)**
Variable	Coefficient (t-stat)	Coefficient (t-stat)	Coefficient (t-stat)	Coefficient (t-stat)
B0: Intercept	-0.270 (-4.05)***	-0.275 (-4.1)***	-0.270 (-4.05)***	-0.294 (-4.33)***
B1: log(sale/lag1_sale)	0.668 (33.13)***	0.667 (32.55)***	0.669 (33.13)***	0.656 (32.6)***
*B2: Decrease_Dummy *log(sale/lag1_sale)*	-0.191 (-3.51)***	-0.182 (-3.32)***	-0.190 (-3.51)***	-0.161 (-2.87)***
*B3: Inside_Debt_Incentive *log(sale/lag1_sale)*	-0.107 (-2.59)***	-0.048 (-1.46)	-0.002 (-2.91)***	-0.084 (-1.71)*
*B4: Inside_Debt_Incentive *Decrease_Dummy *log(sale/lag1_sale)*	0.110 (1.6)	0.023 (0.34)	0.002 (1.29)	-0.001 (-0.01)
*B5: Asset_Intensity *Decrease_Dummy *log(sale/lag1_sale)*	-0.096 (-2.87)***	-0.095 (-2.85)***	-0.095 (-2.87)***	-0.083 (-2.34)**

*B6: Employee_Intensity *Decrease_Dummy *log(sale/lag1_sale)*	0.084 (3.16)***	0.086 (3.21)***	0.084 (3.13)	0.085 (3.04)***
*B7: Prior_Year_Sale_Decrease_Dummy *Decrease_Dummy *log(sale/lag1_sale)*	0.145 (3.07)***	0.143 (3.03)***	0.145 (3.06)***	0.134 (2.81)***
*B8: Economic_Growth *Decrease_Dummy *log(sale/lag1_sale)*	0.015 (1.37)	0.015 (1.34)	0.015 (1.37)	0.011 (1.04)
B9: Decrease Dummy	-0.010 (-2.1)**	-0.010 (-2.09)**	-0.009 (-2.01)**	-0.009 (-2.04)**
B10: Inside_Debt_Incentives	0.005 (1.49)	0.004 (1.42)	0.000 (0.90)	0.008 (1.57)
B11: Asset_Intensity	0.013 (4.29)***	0.013 (4.29)***	0.013 (4.3)***	0.014 (4.35)***
B12: Employee_Intensity	0.004 (1.64)	0.004 (1.65)*	0.004 (1.64)	0.003 (1.33)
B13: Prior_Year_Sale_Decrease_Dummy	-0.029 (-7.43)***	-0.029 (-7.49)***	-0.029 (-7.42)***	-0.028 (-7.21)***
B14: Economic_Growth	0.125 (4.65)***	0.126 (4.7)***	0.124 (4.65)***	0.133 (4.88)***
Number of Observations	5,911	5,911	5,911	5,911
Adjusted R^2	0.5297	0.5294	0.5300	0.5296

Table 6

SPLIT REGRESSION

	Panel B: 61 ≦ AGE ≦ 65			
	Incentive Ratio (Lv)	**Relative Incentive Ratio(Lv)**	**Incentive Ratio (Δ)**	**Relative Incentive Ratio(Δ)**
Variable	Coefficient (t-stat)	Coefficient (t-stat)	Coefficient (t-stat)	Coefficient (t-stat)
B0: Intercept	-0.172 (-2.2)**	-0.183 (-2.33)**	-0.162 (-2.06)**	-0.179 (-2.25)**
B1: log(sale/lag1_sale)	0.634 (20.65)***	0.638 (20.65)**	0.630 (20.06)***	0.635 (20.19)***
*B2: Decrease_Dummy *log(sale/lag1_sale)*	-0.031 (-0.37)	-0.030 (-0.36)	-0.028 (-0.34)	-0.037 (-0.44)
*B3: Inside_Debt_Incentive *log(sale/lag1_sale)*	-0.123 (-3.78)***	-0.059 (-2.94)***	-0.001 (-2.51)***	-0.066 (-2.01)**
*B4: Inside_Debt_Incentive *Decrease_Dummy *log(sale/lag1_sale)*	0.188 (3.68)***	0.092 (2.54)***	0.003 (3.26)***	0.126 (2.4)**
*B5: Asset_Intensity *Decrease_Dummy *log(sale/lag1_sale)*	0.015 (0.3)	0.008 (0.16)	0.019 (0.37)	0.012 (0.24)

	0.149 (3.85)***	0.146 (3.7)***	0.149 (3.84)***	0.140 (3.53)***
*B6: Employee_Intensity *Decrease_Dummy *log(sale/lag1_sale)*				
*B7: Prior_Year_Sale_Decrease_Dummy *Decrease_Dummy *log(sale/lag1_sale)*	0.003 (0.06)	0.004 (0.07)	-0.001 (-0.02)	0.000 (0)
*B8: Economic_Growth *Decrease_Dummy *log(sale/lag1_sale)*	-0.003 (-0.24)	-0.003 (-0.23)	-0.005 (-0.36)	-0.003 (-0.21)
B9: Decrease Dummy	-0.005 (-0.87)	-0.004 (-0.73)	-0.005 (-0.83)	-0.003 (-0.57)
B10: Inside_Debt_Incentives	0.002 (0.79)	0.002 (1.21)	0.000 (0.35)	0.005 (1.26)
B11: Asset_Intensity	0.017 (3.46)***	0.017 (3.45)***	0.017 (3.54)***	0.017 (3.55)***
B12: Employee_Intensity	0.006 (1.76)*	0.006 (1.73)*	0.006 (1.82)*	0.006 (1.80)*
B13: Prior_Year_Sale_Decrease_Dummy	-0.023 (-4.27)***	-0.023 (-4.26)***	-0.024 (-4.48)***	-0.024 (-4.41)***
B14: Economic_Growth	0.073 (2.43)**	0.077 (2.56)***	0.070 (2.3)**	0.076 (2.47)**
Number of Observations	2,898	2,898	2,898	2,898
Adjusted R^2	0.5038	0.5025	0.5025	0.5066

Table 6

SPLIT REGRESSION

	Panel C: 66 ≦ AGE			
	Incentive Ratio (Lv)	**Relative Incentive Ratio(Lv)**	**Incentive Ratio (Δ)**	**Relative Incentive Ratio(Δ)**
Variable	Coefficient (t-stat)	Coefficient (t-stat)	Coefficient (t-stat)	Coefficient (t-stat)
B0: Intercept	-0.123 (-1.45)	-0.122 (-1.44)	-0.122 (-1.45)	-0.117 (-1.37)
B1: log(sale/lag1_sale)	0.595 (21.29)***	0.606 (21.53)***	0.603 (21.19)***	0.604 (21.24)***
*B2: Decrease_Dummy *log(sale/lag1_sale)*	-0.046 (-0.58)	-0.039 (-0.48)	-0.041 (-0.52)	-0.043 (-0.53)
*B3: Inside_Debt_Incentive *log(sale/lag1_sale)*	0.058 (1.62)	-0.000 (-0.04)	0.000 (0.42)	-0.016 (-0.81)
*B4: Inside_Debt_Incentive *Decrease_Dummy *log(sale/lag1_sale)*	-0.020 (-0.38)	0.001 (0.05)	-0.000 (-0.13)	0.023 (0.61)
*B5: Asset_Intensity *Decrease_Dummy *log(sale/lag1_sale)*	-0.166 (-2.8)***	-0.174 (-2.95)***	-0.170 (-2.83)***	-0.178 (-2.93)***

	0.083 (2.49)**	0.086 (2.48)**	0.086 (2.56)**	0.084 (2.42)**
*B6: Employee_Intensity *Decrease_Dummy *log(sale/lag1_sale)*	-0.000 (0.00)	-0.003 (-0.06)	-0.003 (-0.06)	-0.005 (-0.09)
*B7: Prior_Year_Sale_Decrease_Dummy *Decrease_Dummy *log(sale/lag1_sale)*	0.012 (0.78)	0.013 (0.81)	0.012 (0.81)	0.011 (0.71)
*B8: Economic_Growth *Decrease_Dummy *log(sale/lag1_sale)*	0.000 (0.120	-0.000 (-0.11)	-0.000 (-0.07)	-0.001 (-0.26)
B9: Decrease Dummy	-0.004 (-1.44)	-0.001 (-1.09)	-0.000 (-0.90)	0.000 (0.06)
B10: Inside_Debt_Incentives	0.011 (1.95)*	0.011 (1.91)*	0.011 (1.90)*	0.010 (1.67)
B11: Asset_Intensity	0.004 (1.08)	0.004 (1.17)	0.004 (1.14)	0.004 (0.99)
B12: Employee_Intensity	-0.025 (-4.10)***	-0.025 (-4.19)***	-0.025 (-4.18)***	-0.026 (-4.12)***
B13: Prior_Year_Sale_Decrease_Dummy	0.060 (1.93)*	0.060 (1.93)*	0.060 (1.91)*	0.057 (1.83)*
B14: Economic_Growth				
Number of Observations	2,761	2,761	2,761	2,761
Adjusted R^2	0.5059	0.5044	0.5044	0.5079

*, **, and *** indicate significance respectively at the 10%, 5%, and 1% levels. Numbers in parentheses are t-statistics that are based on

standard errors clustered by firm.

Table 7

	EDEC =0			EDEC =1		
	Mean	**std.**	**Median**	**Mean**	**std.**	**Median**
Inside Equity	4372.28	11884.2	295.501	6150.18	15488.36	510.939
Inside Debt	89247.51	840585.75	11627.87	253992.5	2232766.42	23351.36
CEO Incentive Ratio(Level)	0.303436	0.7652486	0.0229547	0.221843	0.5065735	0.0207088
CEO Relative Incentive Ratio (Level)	0.4948564	1.1845654	0.0329206	0.59592	1.2731648	0.0633154
CEO Incentive Ratio(Change)	12.921813	34.3609002	1.1836913	10.4539	25.6159671	1.223172
CEO Relative Incentive Ratio (Change)	0.2343067	0.6363515	0.0181893	0.319446	0.8514091	0.0368359
Observations	9,364			2,105		

Table 8

SPLIT REGRESSION

		PANEL A: EDEC =0				
	Predicted Sign	**Basic**	**Incentive Ratio(Lv)**	**Relative Incentive Ratio(Lv)**	**Incentive Ratio(Δ)**	**Relative Incentive Ratio(Δ)**
Variable		Coefficient (t-stat)	Coefficient (t-stat)	Coefficient (t-stat)	Coefficient (t-stat)	Coefficient (t-stat)
B0: Intercept		-0.193 (-4.04)***	-0.195 (-4.09)***	0.199 (-4.15)***	-0.192 (-4.02)***	-0.213 (-4.38)***
B1: log(sale/lag1_sale)	+	0.623 (41.11)***	0.629 (40.23)***	0.633 (40.4)***	0.632 (40.30)***	0.626 (39.17)***
*B2: Decrease_Dummy *log(sale/lag1_sale)*	EDEC=0: - EDEC=1: insig	-0.080 (-2.00)**	-0.099 (-2.4)**	-0.092 (-2.21)**	-0.100 (-2.45)***	-0.088 (-2.10)**
*B3: Inside_Debt_Incentive *log(sale/lag1_sale)*	-		-0.052 (-1.6)	-0.036 (-2.81)***	-0.001 (-3.07)***	-0.054 (-2.51)***
*B4: Inside_Debt_Incentive *Decrease_Dummy *log(sale/lag1_sale)*	+		0.091 (2.03)**	0.040 (1.67)*	0.002 (2.97)***	0.064 (1.48)
*B5: Asset_Intensity *Decrease_Dummy *log(sale/lag1_sale)*	-	-0.087 (-3.18)***	-0.08 (-3.05)***	-0.087 (-3.16)***	-0.085 (-3.07)***	-0.080 (-2.78)***
*B6: Employee_Intensity *Decrease_Dummy *log(sale/lag1_sale)*	-	0.102 (5.45)***	0.102 (5.5)***	0.102 (5.41)***	0.101 (5.43)***	0.100 (5.15)***
*B7: Prior_Year_Sale_Decrease_Dummy *Decrease_Dummy *log(sale/lag1_sale)*	+	0.075 (2.23)**	0.076 (2.27)**	0.077 (2.26)**	0.076 (2.27)**	0.07 (2.13)**

*B8: Economic_Growth *Decrease_Dummy *log(sale/lag1_sale)*	+	0.008 (0.97)	0.008 (1.00)	0.008 (0.98)	0.008 (0.98)	0.006 (0.81)
B9: Decrease Dummy		-0.005 (-1.45)	-0.006 (-1.58)	-0.006 (-1.65)	-0.006 (-1.68)*	-0.006 (-1.62)
B10: Inside_Debt_Incentives			0.000 (0.15)	0.001 (1.02)	0.000 (0.3)	0.003 (1.29)
B11: Asset_Intensity		0.0159 (5.58)***	0.015 (5.58)***	0.015 (5.53)***	0.015 (5.53)***	0.015 (5.47)***
B12: Employee_Intensity		0.006 (2.86)***	0.006 (3.00)***	0.006 (2.91)***	0.006 (3.03)***	0.005 (2.64)***
B13: Prior_Year_Sale_Decrease_Dummy		-0.029 (-9.15)***	-0.029 (-9.06)***	-0.029 (-9.05)***	-0.029 (-9.09)***	-0.028 (-8.79)***
B14: Economic_Growth		0.090 (4.94)***	0.091 (5.01)***	0.092 (5.05)***	0.090 (4.95)***	0.097 (5.24)***
Number of Observations		9,364	9,364	9,364	9,364	9,107
Adjusted R^2		0.5089	0.5096	0.5095	0.5100	0.5117

*, **, and *** indicate significance respectively at the 10%, 5%, and 1% levels. Numbers in parentheses are t-statistics that are based on standard errors clustered by firm.

Table 8

SPLIT REGRESSION

		PANEL B: EDEC=1				
	Predicted Sign	**Basic**	**Incentive Ratio(Lv)**	**Relative Incentive Ratio(Lv)**	**Incentive Ratio(Δ)**	**Relative Incentive Ratio(Δ)**
Variable		Coefficient (t-stat)	Coefficient (t-stat)	Coefficient (t-stat)	Coefficient (t-stat)	Coefficient (t-stat)
B0: Intercept		-0.277 (-1.89)*	-0.269 (-1.84)*	-0.269 (-1.84)**	-0.274 (-1.86)*	-0.236 (-1.66)*
B1: log(sale/lag1_sale)	+	0.823 (29.13)***	0.831 (28.35)***	0.838 (28.61)***	0.841 (29.16)***	0.843 (29.47)
*B2: Decrease_Dummy *log(sale/lag1_sale)*	EDEC=0: - EDEC=1: insig	-0.079 (-0.51)	-0.104 (-0.66)	-0.144 (-0.93)	-0.157 (-0.99)	-0.172 (-1.08)
*B3: Inside_Debt_Incentive *log(sale/lag1_sale)*	-		-0.072 (-1.13)	-0.042 (-2.48)**	-0.002 (-1.84)*	-0.070 (-3.35)***
*B4: Inside_Debt_Incentive *Decrease_Dummy *log(sale/lag1_sale)*	+		0.155 (0.82)	0.149 (2.03)**	0.007 (3.23)***	0.296 (4.10)***
*B5: Asset_Intensity *Decrease_Dummy *log(sale/lag1_sale)*	-	-0.051 (-0.37)	-0.055 (-0.38)	-0.045 (-0.31)	-0.031 (-0.22)	-0.008 (-0.06)
*B6: Employee_Intensity *Decrease_Dummy *log(sale/lag1_sale)*	-	0.109 (1.11)	0.116 (1.15)	0.127 (1.28)	0.127 (1.28)	0.114 (1.16)
*B7: Prior_Year_Sale_Decrease_Dummy *Decrease_Dummy *log(sale/lag1_sale)*	+	-0.189 (-1.08)	-0.180 (-1.02)	-0.176 (-1.00)	-0.180 (-1.02)	-0.193 (-1.09)

*B8: Economic_Growth *Decrease_Dummy *log(sale/lag1_sale)*	+	0.029 (0.89)	0.034 (1.06)	0.040 (1.31)	0.037 (1.17)	0.035 (1.12)
B9: Decrease Dummy		-0.001 (-0.26)	-0.002 (-0.33)	-0.002 (-0.35)	-0.002 (-0.35)	-0.001 (-0.26)
B10: Inside_Debt_Incentives			0.002 (0.45)	0.003 (1.94)	0.000 (2.92)***	0.008 (3.56)***
B11: Asset_Intensity		0.004 (1.21)	0.003 (1.1)	0.003 (1.10)	0.004 (1.22)	0.004 (1.38)
B12: Employee_Intensity		-0.004 (-1.83)**	-0.004 (-1.77)*	-0.004 (-1.73)*	-0.004 (-1.83)*	-0.005 (-2.00)**
B13: Prior_Year_Sale_Decrease_Dummy		-0.013 (-2.65)***	-0.013 (-2.56)**	-0.013 (-2.63)***	-0.014 (-2.72)***	-0.014 (-2.91)***
B14: Economic_Growth		0.115 (1.9)*	0.112 (1.86)*	0.111 (1.85)*	0.112 (1.85)*	0.095 (1.63)
Number of Observations		2,105	2,105	2,105	2,105	2,057
Adjusted R^2		0.6167	0.6169	0.6179	0.6189	0.6259

*, **, and *** indicate significance respectively at the 10%, 5%, and 1% levels. Numbers in parentheses are t-statistics that are based on standard errors clustered by firm.

국문초록

매니저 인센티브와 원가의 하방 경직성:

-부채 성격의 보상이 매니저의 자원 조정 의사결정에 영향을 미치는가?

임현경

경영학과 회계학

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대리인 이론은 주인과 대리인의 상충하는 이익을 보상 구조를 통해 해결하는 방안을 한가지 대안으로 제시한다. Jensen and Meckling (1976) 이후 연구들은 주로 스톡옵션 등 주식 기반 보상을 통해 자기자본 대리비용을 해결하는 데 초점이 있었다. 이에 반해, 부채대리인비용을 해결할 수 있는 부채 성격의 보상(ex. 연금)에 대한 연구는 비교적으로 주목 받지 못했다. 이 논문은 부채 성격의 보상이 매니저의 원가 의사 결정에 미치는 영향에 대해 살펴보고자 한다. 구체적으로 이 논문은 " 부채 성격의 보상이 매니저의 자원 조정 의사결정에 영향을 미치는가?" 라는 질문을 원가의 하방 경직성 정도를 통해 분석한다. 논문의 결론은 다음과 같다. 첫째, 부채 성격의 보상으로 인해 원가의 하방경직성 정도가 감소한다. 둘째, 부채 성격의 보상 비중이 높은 CEO들은 그렇지 않은 CEO들에 비해 매출 감소 시 원가를 더 적극적으로 감소시킨다. 이러한 연구 결과는 부채 성격의 보상 비중이 높은 CEO들이 미래의 보상 가치를 보존하기 위해 매출 감소 변화에 대해 조금 더 민감하게 반응할 것이라는 가설을 지지한다.

주요어 : 원가의 하방 경직성, 매니저의 인센티브, 부채의 대리인 비용

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